

What is claimed is:

1. A suspension system for mounting a laser discharge unit to a laser chassis,
5 including:
a first support member;
a second support member;
wherein the first support member and the second support member support the
laser discharge unit;
10 a first metal spring and a second metal-spring coupled to the first support
member, and the first and second metal spring coupled the laser chassis such the first
support member is resiliently coupled to the laser chassis; and
a third metal spring and a fourth metal spring coupled to the second support
member, and third and fourth metal spring coupled to the laser chassis such that the
15 second support member is resiliently coupled to the laser chassis.
2. The suspension system of claim 1, the first metal spring is a planar spring
having multiple arms, wherein a first arm of the planar spring is fixed to the first y member,
and a second arm of the planar spring is fixed to the laser chassis.
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3. The suspension system of claim 1, the first metal spring, the second metal
spring, the third metal spring and the fourth metal springs are planar springs having multiple
arms, and wherein a first arm of the first metal spring is fixed to the first support member,
and a second arm of the planar spring is fixed to the laser chassis, and wherein a first plane is
25 defined by a surface of the laser chassis to which the second arm is fixed, and a second plane
is defined by a surface of the first support member to which the first arm of the first metal
spring is attached, and a third plane is defined by the first metal spring, and the first plane,
the second plane and the third plane are parallel.
- 30 4. The suspension system of claim 1, wherein each of the first through the fourth
metal springs are planar springs having a two outer arms and one center arm, and the two

outer arms are fixed to the laser chassis, and the center arm is fixed to one of support members, and the two outer arms and the center arm define a single plane.

5 5. The suspension system of claim 1, wherein each of the first through the fourth metal springs are planar springs each having at least a first arm and a second arm, and a and the first arms of the first and second metal springs are coupled to the first support member, and the second arms of the first and second metal springs are coupled to the laser chassis, and wherein the first arms of the third and fourth metal springs are coupled to the second support member, and the second arms of the third and fourth metal springs are coupled to the laser
10 chassis, and wherein arms of the metal springs define a single plane.

6. The suspension system of claim 5 further including:
a first pair of wheel assemblies mounted to the laser discharge unit, and wherein a wheel of each of the first pair of wheel assemblies is positioned on top of
15 the first support member; and
a second pair of wheel assemblies mounted to the laser discharge unit, and wherein a wheel of each of the second pair of wheel assemblies is positioned on top of the second support member.

20 7. The suspension system of claim 1, wherein the second support member is a v-rail member.

8. The suspension system of claim 1, wherein the metal springs operate reduce the influence of vibration on a bandwidth of a laser beam generated by the laser discharge
25 unit.

9. The suspension system of claim 1, wherein the metal springs reduce the influence of vibration on a wavelength of a laser beam generated by the laser discharge unit.

10. The suspension system of claim 1, wherein the metal springs reduce the influence of vibration on an energy stability of a laser beam generated by the laser discharge unit.

5 11. A laser system including:
a laser discharge unit;
a laser chassis;
an optics frame coupled to the laser chassis;
a first y axis support member;
10 a second y axis support member;
wherein the first y axis support member and the second y axis support member support the laser discharge unit;
a first planar metal spring and a second planar metal-spring coupled to the first y axis support member, and the first and second metal spring coupled the laser
15 chassis such the first y axis support member is resiliently coupled to the laser chassis;
and
a third planar metal spring and a fourth planar metal spring coupled to the second y axis support member, and third and fourth metal spring coupled to the laser
20 chassis such that the second y axis support member is resiliently coupled to the laser chassis.

12. The suspension system of claim 11, further including at least two accelerometers mounted to the optics frame for monitoring of vibrations.

25 13. The suspension system of claim 11, further including an inclination sensor to level a gas discharge laser or molecular fluorine laser.

14. The suspension system of claim 13, wherein the inclination sensor is an optical sensor.

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15. The suspension system of claim 13, wherein the inclination sensor is a piezo-electrical sensor.

16. The suspension system of claim 13, wherein the inclination sensor is an
5 electrical sensor.